

DETERMINATION OF CENTER OF FOCUS BY PARAMETER VARIABILITY ANALYSIS

ABSTRACT OF THE DISCLOSURE

- 5 Methods for the determination of center of focus and process control for a lithographic tool. Diffraction signatures are obtained from a plurality of diffraction structures located within multiple different focus setting fields. Variability of diffraction signatures with each field are determined, by direct analysis or comparison to a library. The variation or uniformity may be represented by any measure, including the standard deviation or the range of values of a chosen feature of a library of theoretical diffraction
10 structures or the variability or uniformity of the diffraction signatures themselves, such as by RMS difference or intensity range. The methods may be used for process control and monitoring of focus drift by determining intra-field variation of diffraction signatures of multiple diffraction structures in a series of wafers.